

APPARATUS AND METHOD FOR AUTOMATED MEDICAL DIAGNOSTIC  
TESTS

ABSTRACT

A method and apparatus for the automation of existing medical diagnostic tests is described. This method, called sequential injection analysis, makes use of a pump, multi-position selection valve, and micro-bore tubing to automate sample manipulation and reagent addition. A suitable detector with a flow cell also forms part of the flow manifold and this detector is used to measure some parameter that can be related to the desired diagnostic measurement. A reagent cartridge suitable for storing and reconstituting lyophilized reagent or reagent concentrate is also described. Use of such a reagent cartridge further enhances the automation of the device by providing a means for preparing reagents in an automated fashion. Automation of the measurement sequence and the sequencing of tests are controlled by a suitable central processor unit and software. The apparatus provides a means of automating existing manual diagnostic tests and as yet, undefined tests.